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ABSTRACT

A study was conducted in Australia, to determine the factors that affect demand for job training. The study consisted of 30 detailed industry case studies, an industry analysis, and a literature review. Each case study examined current training practices, training decision making in the business, and the determinants of training for the enterprise. Industries studied included manufacturing (food processing and electronics) and construction. For each case study, information was provided on the following: the firm, the organization and management of training, the determinants of training, and the impediments to training. The findings were then synthesized across industries. Some of the findings were as follows: (1) training is primarily an operational, not a strategic issue in companies; (2) there were as many outcomes for training as there were companies studied; (3) the quality assurance movement has had a major impact; (4) the mix of company needs and individual needs for training is confusing; and (5) there is a lack of understanding of the national training reforms. (Contains 20 references) (KC)

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DISCUSSION PAPER

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AUSTRALIAN NATIONAL TRAINING AUTHORITY

State Government of Victoria

A Paper prepared for the Office of Training & Further Education, Victoria and the Australian National Training Authority

March 1995

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ENTERPRISE TRAINING: THE FACTORS THAT AFFECT DEMAND

Executive Summary and Overview

The Industry Training Studies project was commissioned by the Office of Training and Further Education, Victoria, on a grant from the Australian National Training Authority. The aim of the research was to identify the training behaviour of individual enterprises in manufacturing (electronics and food processing sectors) and the building and construction industries.

The project was conducted by a consortium comprising the Group for Research in Employment and Training at Charles Sturt University, the Research Centre for Vocational Education and Training at the University of Technology, Sydney, and Australian Workplace Strategies Pty Ltd.

The study consisted of thirty detailed enterprise case studies, an industry analysis and a literature review. Each case study examined three specific areas. Current training practices, training decision making in the enterprise, and the determinants of training for the enterprise.

The Industries Selected for Investigation

The project focused on two industry sectors - manufacturing and construction. The manufacturing sector was divided into two industry sub-groups, food processing and electronics, making three discrete areas for investigation. The team studied 10 cases from each area, 30 cases in all.

Manufacturing often figures prominently in studies of this type (*cf* Curtain, Gough and Rimmer, 1992). However, its popularity for researchers should not belittle its importance to investigations of enterprise training. Despite its contraction in recent years, the manufacturing sector still employs a large section of the Australian workforce. The strategic significance of the sector to the future of the economy, particularly in terms of export growth, has been recognised in numerous reports (Australian Manufacturing Council/Carter, Pappas, Evans and Koop Telesis, 1990; Australian Manufacturing Council/McKinsey and Co, 1993) and the sector is still undergoing large scale restructuring as a result of the federal government's commitment to ongoing tariff reform in the 1990s. However, manufacturing is a highly diverse sector. In terms of training, that diversity is reflected in the plethora of arrangements that exist from industry wide training schemes such as the Engineering Production Certificate to the very enterprise specific training programs associated with change programs such as Total Quality Management.

With this diversity in mind, the team investigated two quite distinct sub-groups. The ***electronics equipment manufacturing industry*** is characterised by high technology

products and mostly low technology processes but with an emphasis on rapid product development. The sector is noted for its high levels of expenditure on training and its industry wide approach to training through trade apprenticeships and the Engineering Production Certificate.

Food processing is an area of strategic significance for Australia's export effort and adds a regional dimension to the study, significant in the context of a renewed emphasis on regional development (Taskforce on Regional Development, 1994). The sector is characterised by a lower expenditure on training and a more disaggregated approach to training arrangements.

The building and construction industry is a significant contributor (7.8%) to Australia's GDP, and is regarded as a lead industry because it affects the competitiveness of most other industries in Australia's economy (Hayton *et al.*, 1993, pp. 4-5). It is predominantly a small business industry, with most of the workforce self-employed. The building and construction industry has several features that strongly distinguish it from other industries, including its historically low expenditure on training and its controversial industrial relations climate. These and other features markd it as a key industry for the study of training practices.

Case Study Selection

The thirty cases were selected from a list of approximately fifty cases drawn up with the following factors in mind.

- *Training arrangements.* From the high public provision of training in construction to the more enterprise oriented arrangements of food processing.
- *Geographic diversity.* The case study sites were located in six States, primarily Victoria and New South Wales but with cases in Queensland, South Australia, Tasmania and Western Australia. The food processing and construction groups added regional diversity to the primarily metropolitan nature of the electronics equipment industry.
- *Gender diversity.* The predominantly male workforce in construction was counter balanced in the study by the female profile of electronic and food processing industries.
- *Employer size.* In all three groups there was a range of enterprises from the small to the large.

The "pool" of fifty cases was sampled until the target number of thirty was reached with the appropriate balance. Access plays a major part in any case study based project. Employers have to agree to participate and commit resources to enable the research to take place. This inevitably places limits on the representativeness of the sample of cases within their industry groupings.

Case Study Methodology

The case studies were conducted according to a protocol which defined the basic areas for investigation in each participating enterprise and the specific question areas to be covered by the researcher. The information was collected within each enterprise through a series of interviews with the following personnel or their equivalents:

1. General Manager/Managing Director
2. Production/Construction Manager
3. Personnel/Human Resources Manager
4. Employee Relations/Industrial Relations Specialist
5. Training Specialist
6. Group of 2 Supervisors
7. Group of 3-4 Operators
8. Senior Union Delegate(s)

Documentary information was also collected in the form of annual reports, training plans, etc., where this was possible.

Analysis of the results of the case studies has been conducted at three levels - within case, within industry and cross industry.

Within Case

The issues were analysed within each case through the use of a common format which specified the layout of each case write up. The major headings in the common format were:

- *The Enterprise*: a description of the economic circumstances of the firm.
- *The Organisation and Management of Training*: current training activities, organisation of training, and training needs.
- *The Determinants of Training*: the driving forces for the implementation of training in the firm.
- *The Impediments to Training*: the obstacles to training provision in the firm.
- *Training Significance*: the perceived benefits and outcomes of training in the firm.

Within Industry

The common format adopted for the cases also enabled clear comparisons to be made within each industry sector. This process was aided by the conference of researchers held at UTS.

Cross Industry Analysis

The final phase of the analysis built up a picture of the common themes that emerged from consideration of training activities across all the cases. The preliminary findings from this analysis were presented at a workshop/seminar held for the Reference Committee in Melbourne.

Key Findings

Apart from the findings for each of the industry sectors that the cases revealed, there were a range of findings that the research highlighted about the general provision of training in the enterprise. In general, these findings can be summarised under six headings:

Competitive Pressure and the Role of Training. The starting point for discussion about training in most of the enterprises studied was the level of competition they faced and their response to it. Some enterprises had taken a strategic approach to dealing with competitive pressure whether it arose from deregulation as in parts of the food processing and electronics industries or increased exposure to international competition through enhanced export performance and the opening up of domestic markets. Training was widely accepted as part of the solution for the enterprise to deal with an increasingly competitive environment.

However, an important finding from the cases is that training is primarily an operational not a strategic issue in enterprises. Although training might be considered at senior management levels to be necessary to survival it was viewed as an enabler of strategy rather than a driver of strategy. Training decisions were almost always taken by operational managers and it was at the operational level that training was successfully implemented.

The Diversity of Training Outcomes. There were as many outcomes for training as there were individual enterprises studied. Despite the relative consistency of the factors that triggered training, the mix in each case was different and the training structures in enterprises tended to differ significantly. The result was that the training impetus and the outcomes that it generated were different in every case - despite the seeming similarity of a number of the enterprises in terms of their market position.

This finding has significant implications for the expression of the demand for training by industry. The recent review of the National Training Reform Agenda (Allen Consulting Group, 1994) calls for a more demand driven approach to national training policy. The findings of the cases indicate that the formulation of training demand by industry will be a difficult process as enterprises appear to operate within unique sets of circumstances and, therefore, have quite different expectations of the training system.

Importance of Quality Assurance. An overwhelming finding in all the cases was the impact of the quality assurance movement in recent years. Almost all of the case enterprises were involved in the implementation of quality assurance systems whether they took the form of accreditation with the ISO or Australian Standards Organisation or the implementation of TQM style approaches to quality improvement. The search for quality was a universal driver of training investment. In particular, the drive for quality emphasised the importance of generic and behavioural skills. A key finding from the cases was the generic nature of much of the training that enterprises were demanding. Usually this related to the improvement of behavioural skills in the workforce rather than strict technical skills. In the case of quality, behavioural skills such as communication skills, problem solving, the ability to work in teams and so on, were critical in encouraging employees to take greater responsibility for the quality of their work.

The Mix of Enterprise and Individual Training Needs. The mix of training needs for each enterprise was different as a result of the unique combination of their circumstances. However, a key finding also from the cases has been the critical role of the individual in determining training outcomes. This is particularly true at the managerial and professional levels, where individual initiative was the driving force behind the provision of training for these groups. In many enterprises, with otherwise enlightened training policies, it was left to the individual to pursue the training that they considered necessary for their own professional development.

However, the training system does not appear to be geared to facilitate the requirements of both the enterprise for specific training programs, and the individual for more general career-oriented training requirements. This mix of training requirements is what constitutes the demand side of the training market, and the system needs to adapt to both.

National Training Reforms. Although the training reforms had helped to create a climate in which managers thought more systematically about the role of training in the enterprise, there was a lack of understanding of the nature of the reforms in most of the case enterprises. In particular, the role of national standards was not clearly understood and many enterprises that had developed competency standards for their employees were unclear about the benefits of national endorsement of the standards or the mechanisms by which endorsement could be achieved. In some cases, the national training bodies were regarded as a bureaucratic barrier by enterprises who were, as a result, sceptical of the benefits that the national training reforms might bring. This was particularly true for small businesses who found access to the system very difficult.

There appears to be a need to explain and market the benefits of the national training reforms more effectively to enterprises.

The Role and Functions of the ITAB Network. The background research to the cases revealed that there were a variety of ITAB arrangements across the three industry sectors which were operating more or less effectively. This finding was

confirmed by the cases studies which demonstrated that an effective ITAB network such as exists in the food processing industry can have a profound impact on the provision of enterprise training. By contrast, the disputation that characterised ITAB coverage in the electronics manufacturing sector had reduced the impact of the ITABs in the enterprises.

There is a key role for the ITABs to play in the improvement of enterprise training if the system works effectively.

Training in Building and Construction

The building and construction industry is very important to Australia's economy, contributing 6.8% of Australia's Gross Domestic Product (GDP) in 1993-94. Of this, 2.4% is from housing and residential construction, and 4.4% is from all other construction (Hayton, et al, 1993). The construction industry, in particular, services most other industries in Australia (through buildings and infrastructure) and so can have a wide flow-on effect on the competitiveness of Australian industry.

The industry is one characterised by boom or bust tied to the economic cycles. Thus it is one which moves from an oversupply of skills in times of recession to one of skill shortages in a boom. Governments have tried to redress this imbalance, with some success, through counter-cyclical, large infrastructure projects and various labour market and training schemes. The workforce is mobile; labour costs are influenced by relative demand and the availability of work. It is also a "small business industry," with an ease of entry to and exit from the industry which sometimes leaves a trail of financial disruption. However, it also has a number of large organisations - including a range of employer bodies, unions and industry associations.

The industry is characterised by:

- a strong technical skills base;
- pre-dominantly small business focus;
- highly developed sub-contracting system;
- poor industrial relations record;
- intensive boom-bust cycles;
- low investment in skill formation;
- opportunities for expanding project management in SE Asia;
- lack of a common vision of the reform of the industry.

Industry Training

Building and construction industry training councils have been established nationally and in all States. The National Building and Construction Industry Training Council (NBCITC) has its headquarters in Melbourne. To improve the quality and quantity of skill formation and the portability of skills, the NBCITC has developed a national training framework for the construction industry. The framework covers occupations up to and including trade level. The purpose of the framework is to facilitate workplace reform and skill formation in the building and construction industry, and is related to the award restructuring process.

While the construction industry has widely supported informal, on-the-job training as part of trade apprenticeship arrangements, the industry's direct expenditure on skill formation through workplace training is very low, both in absolute terms and relative to other industries. Reasons cited for this are the predominance of small businesses (usually self-employed tradespersons) in the industry, the dominance of price competitiveness over other aspects (e.g. quality), the high labour mobility characteristic of the industry, and the marked cyclical nature of construction activity. There is a long standing tendency in the industry to concentrate most of the training investment in initial vocational training, usually trade training.

The investment in external training, particularly for initial vocational preparation, is high compared to many other industries and is certainly much higher than the investment in workplace training. The construction industry has a long tradition of trade apprenticeship training involving external training at a TAFE college.

The dominance of trade training in the building and construction industry is remarkable. Enrolments in trade and other skilled courses are clearly higher than any other course category. Also, compared with other industries, trade qualifications in the building and construction workforce comprise by far the highest percentage of all industries, with 77.6% of post-school qualifications. Although trade apprenticeships are viewed favourably by most people in the industry, several problems with this system are acknowledged. Problems include the cyclical nature of apprenticeship commencements (corresponding to building activity cycles), the narrow focus of traditional trade curricula, and the quality of on-the-job training is variable; on-the-job training is often not managed well and is unstructured.

Initial vocational preparation courses for paraprofessional level occupations are mostly provided by TAFE colleges, but the University of South Australia also provides an Associate Diploma in Built Environment. A variety of courses subsequent to initial vocational preparation courses is offered by TAFE. These are mostly short courses in a particular area for updating of skills or extension of skills into new technologies. The range of courses varies considerably from State to State. Examples of subsequent paraprofessional (short) courses include: computer aided drafting, autocad and advanced autocad. Enrolments in subsequent paraprofessional courses are low compared with courses subsequent to trade courses.

Initial vocational preparation courses for professional level occupations are provided by the universities. Degree courses which are of main relevance to the construction industry are in the fields of building and construction management, architecture, surveying and engineering. In 1991 there were 11,243 students enrolled in building and architecture award courses, and 40,207 enrolled in engineering and surveying award courses in Australia. In 1991 about 30% of building and architecture enrolments were in the building field, and the percentage is expected to increase over the following few years.

Case Study Enterprises

The enterprises were ***mostly Australian owned*** and their services and operations were largely based in Australia (local or national), although some of the larger companies have recently expanded into New Zealand or South East Asia to a small extent.

For the construction industry, ***sub-contracting is a significant factor in the organisation of and attitudes to training.*** All of the firms use sub-contracting to a large extent, and some also act as sub-contractors themselves on certain projects. An outcome of sub-contracting is that all the companies have relatively few direct employees in relation to the level of annual business turnover.

Technology has had a moderate effect on the industry in recent years. The main areas of technological change are new building materials and computerisation of design, drafting, estimating and business administration.

Price, quality of finish, innovation in design and customer service are important factors in competitiveness for most of the housing enterprises. For the construction enterprises, contract price and quality assurance are important common factors in competitiveness.

The unionisation of the workforce sharply diverged between the housing and construction sectors. The housing industry is largely non-unionised, with a non-unionised workforce in all of the housing firms studied. In contrast, most of the direct employees of the construction enterprises and employees of some of the larger sub-contractors belonged to a union. The industrial relations climate in both housing and commercial construction is currently calm.

Organisation and Management of Training

Four key factors characterised the organisation of training in the building and construction cases:

1. ***Systematic Approach to Training.*** Most of the enterprises, including some of the larger ones, did not have a systematic approach to training. Most did not have formal, written training plans, but most of the large firms had a written training policy. For existing employees, much of the training was initiated by the individual rather than the manager of the enterprise in most of the case study firms. Formal training needs analyses or skills analyses were undertaken by some of the larger organisations. Very little evaluation of training was encountered in the case study enterprises in construction.

2. ***Trade Apprenticeships.*** For both the housing and construction sectors there was a well organised and extensive system of trade apprenticeship training for entrants to the industry. Most of the enterprises in the study supported this system directly (by employing apprentices) or indirectly (through industry group schemes).

3. ***External Training for Existing Staff.*** In addition to trade apprenticeships for entrants, there was some external training undertaken by existing staff of the enterprises, in both small and large firms. In most cases the individual was granted little or no release time by the employer. Most of the external courses or workshops are conducted in the evenings so release from work was not an issue. There was no payment for staff time while attending "out-of-hours" courses in the housing and construction case study enterprises, but in most of the cases the course or workshop fees were only paid for when the training was viewed as relevant to the work of the employee. External training ranged from very short (e.g. 2 hours) workshops, up to accredited diploma and degree courses.

4. ***Internal Training.*** In contrast, the provision of internal training was related to the size of the firm, for the enterprises sampled. For the smaller firms internal training was not apparent except for occasional on-the-job training (e.g. to learn a new computer program). Most of the large firms were active in conducting internal training programs. The internal training was usually focused on technical skills (e.g. welding, dogman, pipelaying, laser surveying), or on broader topics such as quality assurance, occupational health and safety, and language and literacy. For most of the larger firms the internal training courses were also offered to the firm's sub-contractors.

Determinants of Training

There was a diversity of determinants of training in the construction case studies. The diversity appeared to be related to the wide range of enterprise sizes, market specialisations, competitive environment and human resource policies.

Work Re-organisation. For some of the larger enterprises there was some re-organisation of work involving the forming of semi-autonomous teams and, usually associated with this, moves towards multi-skilling. Some training in "team skills" and other communication and interpersonal skills was undertaken but despite this the actual implementation of semi-autonomous teams and multi-skilling was well behind the enterprise's rhetoric on work re-organisation.

Quality. All the enterprises emphasised the importance of quality in construction and customer service, but only some of the larger enterprises backed this up with a significant effort on structured training in quality management.

New Technology. The introduction of new product technology or new computer applications was an important trigger for training in all of the enterprises in construction and housing. Much of this training, however, involved short, low level training in new routines, and much of the training was paid for by the vendors of the new materials or new technology.

New Regulations. New building regulations triggered a small amount of training in many of the enterprises. Often the training triggered by new regulations involved

attending a workshop organised by an industry association such the Master Builders Association or the Housing Industry Association.

Commitment to Industry Training. For the senior staff of the enterprises under study there appeared to be a strong commitment to maintaining the skills base for the industry as a whole (both in housing and in construction) through the trade apprenticeship system. Often this was expressed as "putting back into the industry what I gained from it."

Individual Initiative. In all of the case study enterprises, training was triggered by the individual identifying and fulfilling training needs. This was generally encouraged by the enterprise to the extent that course fees would be paid for training deemed relevant by management. In the small firms this was a major trigger. In the large firms, this trigger mainly applied to the supervisor and management/ professional levels.

Impediments to Training

The following impediments to training, identified in the enterprises, recurred in several of the cases:

The Sub-contracting Culture. Sub-contracting allows project managers to contract in expertise at short notice rather than planning for skills acquisition for existing staff. Even when the principal contractor arranges and pays for training programs for employees of sub-contractors, the contractor often prevents his/her employees attending, usually citing "pressure of work" related reasons.

Pressures of Small Businesses. The smaller enterprises cited time pressures as a reason for not training. For example, in one housing enterprise with the equivalent of four full-time employees, the building supervisor stated that his absence while training would greatly increase the load on the remaining staff, especially as everyone was so busy.

The cost of developing, organising and conducting internal training programs is not seen as a major impediment for the large enterprises. Such costs are spread over the larger number of staff targeted for the training. There was an inference that this economy of scale is not available to small firms, and so may be considered an impediment to the provision of internal training. The lack of internal training in the small enterprise case studies, both principal contractors and sub-contractors, supports this conclusion.

Lack of Appreciation of the Benefits of Training. In some of the enterprises there was an appreciation of the need for and benefits of trade or technical training, but little appreciation of the need or benefit of training in non-technical skills. Often those interviewed had undertaken initial trade or technical training but had acquired management and other non-technical skills informally. Both the costs of training and

the benefits of training were not systematically recorded in most enterprises, including the larger construction enterprises.

Inflexibility of External Training. In some of the cases external training providers such as TAFE were criticised for a lack of flexibility in meeting the needs of sectors of the industry or individual large enterprises, in terms of the content of courses and the modes of delivery. However, some managers interviewed did not appear to have a good knowledge of the range of relevant external training courses available.

Training in Electronics Equipment Manufacturing

Although the electronics equipment manufacturing industry does not constitute a separate industrial classification for the purposes of statistical collection, it is a well defined category of companies that share a similar production process and service markets which are in the process of converging quickly with the emergence of the information super-highway (ABS, 1994). For the purposes of this study the Electronics Equipment Manufacturing Industry was taken to be the manufacturing sector of the information technology and telecommunications industries.

The industry is characterised by:

- industry growth rates of about 4-7 per cent annually (DITARD, 1993);
- concentration of foreign owned multinational companies but with a growing number of smaller companies serving niche markets;
- small size of individual companies and the industry overall by international standards;
- access to the R&D facilities of multinational parent companies;
- a highly skilled technical workforce;
- growth opportunities in export markets especially in Asia;
- access to global markets through parent companies (globalisation);
- historical dependence on large customers such as Telecom for business;
- assembly only production processes;
- low manufacturing volumes militating against economies of scale;
- major threat to the telecommunications industry from full deregulation in 1997.

Industry Training

Reflecting the difficulties involved in defining an industry coverage in the electronics sector, the creation of an agreed national industry training council structure has been a source of debate. A variety of ITABs claim a stake in the sector including the National Electrical and Electronics Industry Training Council (NEEITC), the National Metals and Engineering Training Board (NMETB) and more recently, the Telecommunications Industry Training Advisory Board, (TITAB) and the Information Technology ITC (ITITC). There is a significant debate on whether training for the industry should be approached from a broad occupational perspective (broadly the NEEITC and ITITC view) or from an industry or enterprise perspective (the NMETB and TITAB view).

The recent development of the Engineering Production Certificate Levels 1-3 (EPC) under the auspices of ACTRAC is the first attempt to formalise operator training in the metals and electrical/electronic sectors. The EPC recognises the changes that are occurring by including a mixture of non-trade and trade modules. It will also facilitate the spread of formal workplace training, as the EPC is designed for delivery at the enterprise to existing employees. While the EPC will fill part of the gap, company in-house training will continue to be the dominant form of operator training.

Structured apprentice training has traditionally been the dominant form of training in the electronics manufacturing sector. Formal, structured training at the trades level has traditionally combined off- and on-the-job components. The extent to which the on-the-job (workplace) component is prescribed varies from State to State. Most States, however, continue the traditional master/apprentice approach where the on-the-job components are only broadly specified and it is the responsibility of the individual employer to establish structured, on-the-job instruction and assessment.

Professional level education and training is largely the province of the university sector. There is a well established electrical and electronic engineering provision. Electronic manufacturing also draws on other engineering fields, particularly civil and mechanical engineers, similar to most manufacturing establishments. At these skill levels the requirements of the electronics manufacturing sector is substantially similar to any metals manufacturing plant.

The Case Study Companies

The companies presented a microcosm of the electronics industry in Australia along a number of dimensions.

Despite the large absolute size of some of the companies in the sample, the companies are very small by global standards and reflect the ***relatively small size of the Australian electronics industry*** generally. Even the larger companies occupy only a relatively minor place within their parent company operations.

Often multinational companies established subsidiaries in Australia with the sole purpose of supplying the local market. Thus in most cases ***the larger companies in the sample do not support any significant export activity***. This situation is beginning to change as some parent companies integrate their Australian operations into their global strategies.

In the main, the electronics companies are ***assembly based producers***. This is a natural response to the nature of the electronics market in Australia. The federal government has encouraged the development of locally based suppliers of complete units, primarily to the defence and telecommunications sectors.

The pursuit of quality was given high priority in all the companies in the sample. Seven of the companies had achieved ISO 9000 series or AS 3900 quality standards

accreditation, and a further three had adopted a form of Total Quality Management system to drive quality even further into the organisation.

As a result of the assembly based nature of the operation, research and development activities in the larger electronics companies tend to be limited to the application of existing technology to the Australian situation. The ***penetration of advanced manufacturing technologies into the Australian electronics industry is low*** by international standards. The small scale of the operations and the size of the Australian market do not justify the investment required for greater automation of the industry.

The generic nature of product and process technology in the Australian industry reflects the nature of the industry worldwide. Process technology is open to all and the speed of product innovation in the industry means that it is difficult to build competitive advantage by developing a unique product. Throughout the industry there was a ***general belief in the importance of workforce skills at all levels to gain future competitive advantage***.

Organisation and Management of Training

The geeral approach to the management of traiining in the electronics companies can be summarised under 5 headings:

1. ***Systematic Approach to Training.*** The extent to which companies had adopted a systematic approach to training varied. The use of formal needs analysis, design and evaluation was not well established in any of the companies in the sample. Many of the larger companies were moving towards the use of formal needs analysis. Some companies used forms of appraisal systems to highlight training needs amongst managerial staff in particular. In many cases, however, particularly in the larger companies, these appraisal systems had been in place for some time and had often fallen into disuse.

2. ***Training Infrastructure.*** There were varying degrees of training infrastructure in the companies. Four of the companies employed training officers or coordinators with varying levels of support. Smaller companies could not afford the luxury of a designated training position. In these cases training tended to be the responsibility of the CEO or General Manager. In line with the coordinating role of the training specialists, where they existed, many of the companies had devolved responsibility for training to line management in recent years. In small businesses this devolution was unavoidable, but in larger companies the emphasis on the role of the line manager in organising training provision for his or her unit was relatively new.

3. ***The Role of the Individual.*** The devolution of training responsibilities to line managers also mirrored the role of the individual in highlighting his or her own

training needs and ensuring that they received the training they needed. Many companies were moving towards the implementation of individual training plans for their staff, but few had achieved this goal. Nevertheless, the individual played a key role in identifying and organising training for him/herself. This was particularly true at the managerial and professional levels.

4. ***Technical Focus of Training.*** The training in electronics companies reflects the technical, engineering nature of the industry. A premium is put upon engineering skills and many of the senior managers in these companies, large or small, were engineers. Many of the larger companies offer extensive and well planned training programs for engineers, particularly graduate engineers. At the shopfloor level, the emphasis in the industry has been traditionally on technical training to cope with changes in product or process technology. Although many companies are introducing more behavioural based training into shopfloor areas (often linked to TQM or teamwork), technical training still dominates the training that is carried out.

5. ***Use of Competency Standards.*** Competency standards were not in use generally across the sample. Only two companies had developed and implemented standards. The Training Guarantee was viewed as largely irrelevant by the companies in the sample. All of the companies spent above the former Training Guarantee minimum, some investing as much as 9 per cent of payroll in the current year.

Determinants of Training

There were four key determining factors for training within the electronics companies.

The Competitive Environment. There is little doubt that, amongst all the companies in the sample, the pressures of the competitive environment were the most important factors influencing the provision of training. All the companies were experiencing a high level of change in their environment.

For the telecommunications companies, partial deregulation had introduced a new competitive element into the environment, and the prospect of full deregulation in 1997 was focusing the attention of managers on survival. The smaller companies were seeking to establish themselves in the electronics industry, primarily through finding niches in which they could avoid full competition with the larger companies or through establishing relationships with them.

In all cases the companies were undergoing a process of strategic development or realignment to cope with the pace of change in their environments. This strategic process fed into the company's operations in the form of a demand for change. Training was viewed as the enabler of that change.

The Drive for Quality. For most of the companies in the sample, improvements in quality were a key part of the changes that they undertook in response to the competitive pressures exerted by the environment. Most of the companies had achieved ISO or Australian Standards accreditation or were experimenting with forms of TQM. Both routes to quality improvement involved substantial investments in training.

The Introduction of New Technologies. Most of the companies in the sample were involved in the introduction of new product and process technologies. In many cases the introduction of new products formed the trigger for the introduction of new process technology. However, the training implications of product and process technology were different. For many of the companies the rate of product innovation was so fast that training associated with new products had become fairly routinised. Where product life cycles are longer, new product technology may impact on the company only every few years and require a greater level of change. In these cases, new product training may involve significant technology transfer from the parent to the subsidiary with a corresponding need to send engineers overseas. Training for new processes and new equipment, however, is less routinised and often represents a far larger investment for the company. New process technology has also a greater propensity to change working practices in the organisation as old jobs disappear and new jobs are created. This can sometimes be a driving force behind changes to work organisation which may trigger training in behavioural skills, e.g. teamworking, etc.

Belief in the Importance of Skilling the Workforce. Related to the difficulties perceived by managers regarding gaining competitive advantage in the industry and the strategic need for change to keep pace with changes in the environment, managers across the sample expressed a deeply held belief in the importance of fostering skills at all levels as a means of securing the futures of their respective companies. The identification of skills differed from one company to another, but all seemed to subscribe to the belief that a large scale process of upskilling was necessary for their survival. However, this was often an expression of future training needs. In most cases, current training did not reflect these beliefs in wide ranging upskilling.

Impediments to Training

There were a number of factors that inhibited the provision of training at the enterpise level.

Pressures of Production. All the companies were experiencing the pressures brought about by the recovery in the economy. Some had grown through the recession and were struggling to keep pace with the level of demand for their products. Others had shed labour in the early 1990s and had not yet begun to recruit to any significant degree. In these companies, the pressures of production were becoming quite acute and both had plans to recruit in the very near future. As a result, most of the companies in the sample had achieved significant productivity improvements in the

1990s and were reluctant to see these disappear. However, this created a dilemma for the companies in terms of training, as many employees felt that they could not be spared for training.

Role of Middle and Junior Managers. In many cases the pressure point for release of employees to training is found at the level of the middle manager, the production manager, or equivalent, who has to make the arrangements to release employees but who is closely measured by senior management in terms of productivity and quality performance. In most cases, conviction about the role of training in the future of the company was expressed at senior management levels in the companies. However, in many cases these convictions had yet to filter down through the organisation to lower level managers.

Lack of Suitable External Training. Many of the companies were operating at the leading edge of technology in the electronics industry. In most cases the level of innovation in the companies meant that it was difficult for them to find providers of technical training that knew as much as they did about the technology they were dealing with. In some cases, providers did not have expertise in even the basic functions in which the companies required training. As a result, most of the companies in the sample had come to depend heavily on vendor training for the introduction of new process technology. This often required lengthy visits to overseas vendors in Europe or Japan by engineers and others concerned with the commissioning of new equipment, and represented a substantial cost to the companies involved.

Future Prospects for Trained Staff. Despite the widely held belief in the need for a more highly skilled workforce generally, many managers expressed reservations about the efficacy of raising the expectations of large numbers of staff for advancement on the basis of their acquisition of skills. Companies only had so many positions that were open to promotion - not all shopfloor employees could aspire to become engineers or even technicians.

Training in Processed Food and Beverages

Processed foods are products that have been fundamentally transformed from an agricultural raw material in such a way as to be suitable for retail sale and final consumption. Beverages include the full range of hot and cold drinks. A distinction is made between highly processed products (e.g. bacon and smallgoods, cheese, confectionery, processed seafoods and wine) and minimally processed products (e.g. meat, poultry, milk, cream, butter, raw sugar and malt).

The processed foods and beverages industry is the largest manufacturing industry in Australia, contributing about 20 per cent of total manufacturing turnover and 17 per cent of total manufacturing employment (Agri-Food Council Secretariat, 1993). The industry has shared in the decline in manufacturing industry's contribution to Gross Domestic Product, but in the period since 1990 the food and beverages industry's contribution to GDP has been increasing (NFITC, 1994).

There is a strong presence of major world food companies in Australia. Of the 54 major Australian food, beverage and retail companies listed by the Agri-Food Council, 22 are foreign owned or have a majority foreign shareholding.

The food and beverages industry is characterised by:

- ready availability of raw materials at competitive prices;
- proximity to the rapidly growing Asian market;
- below average labour costs for the manufacturing sector in Australia;
- one of the most highly protected industries in the manufacturing sector;
- the performance of the industry during the 1970s and 1980 was hampered by weak productivity growth;
- growth potential of the domestic market is limited, with real growth constrained to around 2.6 per cent a year (Agri-Food Council Secretariat, 1993);
- the major opportunities for the industry are in export markets, particularly in the Asia region.
- poorly developed functional language and literacy skills which is estimated to constrain the effectiveness of almost half the industry's workforce.
- reforms to the General Agreement on Tariffs and Trade (GATT) promise to benefit the industry. Across the board tariff cuts averaging 36 per cent, if implemented, will be of further direct benefit.

Industry Training

Food industry training councils or boards have been established nationally and in all States. The NFITC has its headquarters in Brisbane and a literacy project office in Melbourne. The NFITC has established an industry-wide consultative process. National reference groups, comprising the relevant industrial parties, have been established in each sector of the industry for this purpose. State reference groups have and will be established on a needs basis as projects in each sector commence. This consultative process ensures that the curriculum documentation accurately reflects and encompasses national competency standards as established by industry. The NFITC has a well-developed network within the industry. For example, the NFITC executive officer was represented on the committees responsible for developing the national Certificate of Food Processing course.

The diverse nature of the food and beverage processing industry makes it extremely difficult to generalise about workplace training. As the industry has a high proportion of small businesses, it is probable that much workplace training is *ad hoc* and undeveloped. The NFITC draft industry training plan (NFITC, 1994) highlighted the lack of a training culture in the industry which led it to specify that its priority is *"to provide training to existing workers in order to upgrade current skill levels and provide broader career options for the industry workforce."*

Larger enterprises have in some cases developed sophisticated workplace training systems based on NTB competency standards and linked with the national Certificate of Food Processing (CFP). This is the cornerstone of the industry's external training and was first accredited in November 1992. As a joint initiative of the NFITC and the Australian Committee on Training Curriculum, the CFP was designed with the extensive involvement of industry. The curriculum is based on skill registers and industry competency standards developed by the NFITC and endorsed by the NTB. It was one of the first courses to have been developed from agreed national workplace competency standards. Various streams are catered for in the course design at present, including Flour Milling, Stockfeed Milling and General Foods (NFITC, 1992).

There has been a decline in the intake of apprentices in the industry in recent years. Between 1988-89 and 1990-91 the number of individuals commencing food apprenticeships dropped by 14.7 per cent, or equal to half the decrease recorded across all trade areas. The apprenticeship areas that relate to the food processing and beverages industries are bread baking, pastry cooking, and butchery and smallgoods. Prior to the White Paper on Employment and Growth (1994), food processing traineeships had been developed in non-trade areas for dairy processing and smallgoods. Numbers taking up traineeships within the food industry are low but increasing (NFITC, 1994).

ANTA has funded an interstate cooperative training project, the Food Industry Training Project (FITP) to deliver training at the operator level in the Certificate of

Food Processing. The project focuses on enterprises in North Eastern Victoria and the Riverina. A project steering committee has been established. It consists of members of each of the project partners, with a strong majority of food processing industry members. Other members include representatives from unions, food industry training boards, and state training systems (FITP, 1994).

A wide range of courses have been developed by TAFE for the food processing and beverages industry. Courses currently on offer include certificates in specialist areas such as baking, cereal milling, cookery, food and beverage, food laboratory techniques, food manufacturing, food preparation and service, food skills and food technology.

There is a growing trend towards the recruitment of university graduates by some major companies for development to middle and senior management. Graduate entry to the industry may be via a specialist degree in food science and technology or a generic course in disciplines such as accounting, computer science, human resource management, marketing or mechanical engineering.

The Case Study Companies

In broad terms a number of common features can be discerned.

The firms primarily produce for the ***domestic market*** but all have recently sought to expand into export markets as a source of growth. Generally, they are also seeking to expand the range of products to access niche markets in response to broadening consumer tastes. They each face significant direct and indirect competition from other local producers. A number were positioning themselves to respond to deregulation of their core product markets. This is introducing competition for the first time and each is seeking to position itself through increased emphasis on training and product diversification for the deregulated environment.

Most responded by both addressing the ***quality of their products and production practices*** and concomitantly their training practices. The increasing emphasis on quality, both in production to reduce costs and in the final product to maintain and expand market penetration, especially in export markets, has led most companies to introduce quality assurance practices of some form, including the introduction of team based work organisation. The extent to which this was being achieved varied. Most have or are currently in the process of seeking AS3901/2 Certification as part of the move to build quality into their production practices.

All of the enterprises have ***substantial production and distribution operations workforces***. A number of the companies have a large casual workforce reflecting the seasonality of their inputs and most operate continuous shifts. The operations workforce generally has a significant proportion of people from a non-English speaking background, although the actual proportions vary between companies. A

gender segmentation was found in most companies, with women generally occupying the lower classification levels in the production divisions and the distribution divisions tending to be male dominated. All of the companies recognised the importance of the skills of their workforce in achieving expansion goals and in maximising the return on their capital investments. In all of the companies, the increased emphasis on structured training was largely concentrated on the operations workforce, for reasons to be discussed later.

Most of the enterprises have invested heavily in ***upgrading and expanding their production lines and production technologies*** in recent years. The remainder of the enterprises have introduced highly automated and computerised production technology in recent years and this has been an important driver in addressing the training needs of the shopfloor staff.

Organisation and Management of Training

1. ***Systematic Approach to Training.*** As a result of competitive pressures, quality concerns and award restructuring initiatives, most of the companies were in the process of formalising their training management. Most of the companies were in a transitional phase in relation to their organisation and management of training. Many of the companies had instituted Joint Consultative Committees as agreed in the Food Industry Memorandum of Understanding and in their award restructuring agreements. Training consultative committees had also been introduced to manage the introduction of the structured training in the enterprises. In most cases the role of the training committee was to set the framework for the training systems which were then managed either by the line managers or by the work teams.

   Training provision was a mixture of: on-the-job training and experience (especially for operations staff); short external courses (for clerical, management and maintenance/ technical staff); and some external accredited courses (for apprentices, and increasingly for operations staff - the national Certificate of Food Processing, and also, in some companies, for managers).

2. ***Training Infrastructure.*** Given that there were clear differences between the companies in the stages of implementation of training reform, so there were similar differences in the training infrastructures established. All the companies have introduced a position of Training Manager or Training Coordinator in recent years. The role of the training manager was generally a systems manager rather than trainer. They were generally responsible for organising and facilitating training and establishing the skills and training needs analysis systems.

   Many of the enterprises were delegating training responsibility to line managers as part of the process of devolving responsibilities generally as management

structures were flattened. In those enterprises where line mangers are responsible, it appeared that training needs identification was largely unstructured and reliant on individual staff identification of needs. These needs were communicated to the line managers, who determined whether to forward the request to the relevant senior manager for decision.

3. ***Use of National Competency Standards.*** Most enterprises in the sample were utilising national competency standards as the basis of the planned training structures for operations staff. They were also formalising their use in the enterprise agreements being negotiated. However, there was some variation in the breadth of competency standards application within the enterprises. Most of the enterprises were only utilising the competency standards for operations staff, while training for other staff, especially clerical staff, was structured and largely relied on individual staff identification of training needs.

4. ***Evaluation of Training.*** There was little formal evaluation of the training undertaken. Universally there was a strong belief in the advantages and, in many cases, the necessity of providing training but the movement to formalise training was generally so recent that there were no systems in place to provide any systematic basis for evaluation.

Determinants of Training

The pressures for training were diverse, but there were a range of factors leading the companies to formalise and upgrade their training arrangements:

Competitive Pressures and New Markets. Some of the companies were aiming primarily to consolidate existing markets, while others were broadening their product mixes and introducing new specialised niche products in response to increased competition from both domestic and, in some cases, international competitors. With only one exception, all the enterprises were seeking to expand into export markets as sources of growth.

Quality Initiatives. Part of the response to the competitive pressures for all of the companies has been an increasing commitment to quality in both production (to reduce waste and contain costs) and in the final product (to meet consumer requirements). The actual implementation of quality systems varied markedly amongst the enterprises, but, despite the variations, all mentioned the drive for quality as a key determinant of training. The pursuit of AS3901/2 certification was a further catalyst for formalising training within the enterprise.

Introduction of New Equipment and Technologies. Many of the enterprises recently had, or were in the process of investing heavily in, new equipment to achieve production goals. The new equipment was generally facilitating batch production as well as being significantly more automated and computer controlled. Since in most cases the new equipment represented a heavy capital investment, there was a strong

incentive for firms to ensure that it was utilised to its maximum performance. This had been an important driver in enterprises ensuring that operatives and maintenance staff were properly trained.

Award Restructuring. The award restructuring process has played an important role in the food industry as a catalyst for enterprise training reform. While not generally being a direct determinant of training, it has been important in providing the industrial and work reorganisation climate within which the competitive responses can be pursued. In all of the companies it appeared to be the coincidence of quality issues (broadly defined) and the industrial relations agenda that had made training a central issue.

Impediments to Training

Although there were a number of impediments specific to each enterprise, there were no major impediments which arose to seriously deter enterprises from pursuing the reform of their training.

Training Infrastructure. The most serious problem that many of the firms faced was the lack of an internal training infrastructure or culture. Many simply did not have the human resource management structures sufficiently developed to manage a structured training program. Some of the enterprises were committing substantial resources to implement systems and to train staff to work within them. Others were taking the decision to add the responsibilities to the line manager role supported by a dedicated training manager. All the firms were in the process of addressing this impediment, but it was generally a slow process.

Staff Release Time. A further major problem was staff release time, especially for production staff where the majority of the increased emphasis on training was found. Most of the enterprises were finding it necessary to train outside normal work hours. This involved extra wages costs and in some cases there was an unresolved industrial issue as to whether the training should be paid at ordinary or overtime rates.

Workplace Cultural Change Linked with Work Re-organisation. Linked to both of these was the work re-organisation that most of the enterprises were also seeking to introduce. As discussed earlier, most were seeking to introduce more flexible work practices and some form of quality assurance as well as a greater customer focus. The different roles for staff, both shopfloor and managers, required a substantial internal cultural change. Training was recognised as an important means of achieving the internal goals, but there was a lack of training experience in the skills to achieve them, either internally or externally.

A Model of Enterprise Training

A key finding from the case studies was the dichotomy between the diversity of training outcomes at the enterprise level and the relatively limited number of factors that drive the training effort across the sample. In many cases enterprises operating under the same market conditions display remarkable differences in their training provision. The reason for the diversity of training outcomes from enterprises in such seemingly similar situations is a result of the interaction of a number of factors that operate on the individual enterprise. These include factors which drive the provision of training (what have been termed determinants and impediments in the case studies) and structural factors that influence the direction of the drive to train. Many of these factors recur across the cases. However, the combination of factors is unique to each individual enterprise and it is the combination and interaction of the factors that determines the final training outcome.

The Model of Enterprise Training presented in Figure 1 attempts to order the factors in a diagrammatic way:

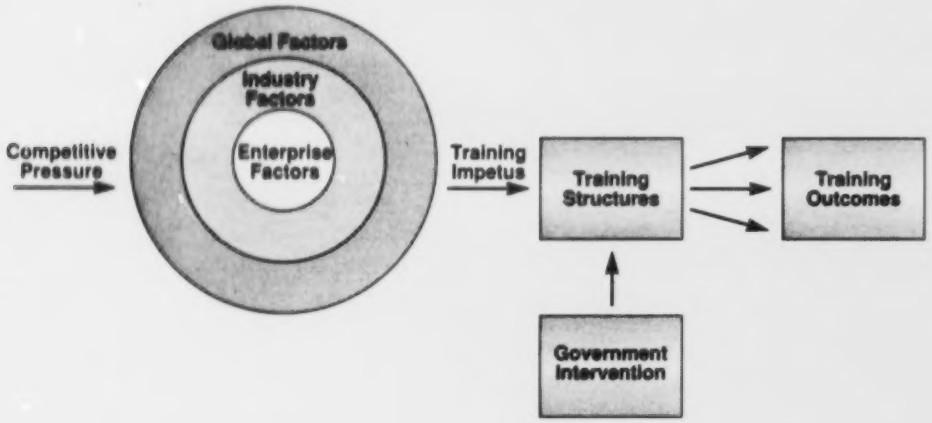

Figure 1
A Model of Enterprise Training

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The model consists of six elements.

Competitive Pressure

The starting point for the explanation of the variability of training provision is competitive pressure. All the case study enterprises faced varying degrees of competitive pressure and most had experienced a significant increase in pressure over the last five years. Explaining their reasons for the increasing emphasis on training employees, most senior managers started by referring to competitive pressure whether it came from deregulation of domestic markets (as in the case of the tele-communications enterprises), increased penetration of markets, increased demands for quality, or increased export orientation (in the case of a number of food processing enterprises). However, competitive pressure does not simply act at the enterprise level. It influences both the industry of which the enterprise is a part and the economic environment in which it operates.

Impetus Factors

In the case studies we distinguished between determinants of training and impediments to training provision for each enterprise. When comparing the results across the case this division can be misleading. Factors that act as an impediment in one enterprise may well be acting as a determinant and driver for training in another. Thus in one situation the culture of the enterprise may be inimical to the provision of training, in others it may be a crucial determinant of training. Determinants and impediments are, therefore, better regarded as factors that influence the provision of training either positively or negatively.

Three levels of factors were distinguished in the model:

Global Factors - which tend to appear consistently in the cases across all three industry sectors. These factors include:

- the drive for quality;
- the introduction of new technology;
- innovation in work organisation;
- award restructuring.

Industry Factors - which impinged on specific industries but were not global. These factors included the impact of deregulation, the move away from standardised products to niche markets, the level of industry training arrangements, internal regulation of the industry, and the general tradition of training in the industry.

Enterprise Factors - which operated primarily at the level of the individual enterprise. These factors included the impact of organisational culture, the role of managers (especially middle managers), the availability of economies of scale for training, the pressures of production on the release of staff for training, and the impact of industrial relations at the enterprise level.

Training Impetus

The interaction of global, industry and enterprise factors produces the impetus to provide training at the enterprise level. The strength of the impetus for each individual enterprise depends on the particular combination and strength of the factors for that enterprise. The diagrammatic representation of the factors as concentric circles illustrates the variety of factor combinations that were found in the case studies, resulting in the variety of enterprise predispositions to provide training for employees.

Training Structures

The variety of outcomes, however, depends on the second set of filters in the model. The strength of the impetus to train does not imply the actual form that the training takes. This is determined by structural forces within the enterprise which moderate the training impetus. These structural factors include the level and type of training infrastructure present in the enterprise, the levels at which decisions to train are taken, the extent to which a systematic approach to training is adopted, the size of the organisation, the extent to which the enterprise uses competency standards, and the crucial role of the individual in determining the type of training he/she receives.

Government Intervention

The structural factors are influenced by governmental initiatives such as those taken under the banner of the training reform agenda, and the availability of suitable public training provision.

Training Outcomes

The result of the moderation of the training impetus by the structural factors within the enterprise is the unique combination of training outcomes for the enterprise. The possible combinations are expressed in terms of the mix of internal and external training, formal and informal training, general and specific training, training in "soft" behavioural skills and "hard" technical skills, the extent of vendor training, the distribution of the training effort amongst groups of employees, and the level of training expenditure.

Enterprise Training: The Cross Case Findings

This section uses the Model of Enterprise Training to explain the general findings from the case studies across the industry sectors.

The Training Impetus

Competitive Pressure

All the enterprises in the sample were affected by the rising level of competition in the domestic and global markets. The reasons for this include the growing international focus of the Australian economy as enterprises experience the impact of increased competition in the domestic market as a result of deregulation and the reduction in tariff barriers, the growing export orientation of enterprises, especially in the manufacturing sectors, and the globalisation strategies of multinational enterprises that attempt to integrate their Australian subsidiaries into a worldwide operation.

There were a number of factors that were operating across specific industries or affected certain parts of industries. Deregulation was one of the most common pressures cited. For example dairy companies were facing the disappearance of traditional, regulated markets and the telecommunications companies were dealing with the consequences of the introduction of two new carriers in the domestic market. In many cases enterprises in the sample were experiencing a stagnation in their traditional domestic markets.

At the enterprise level competitive pressures manifested themselves in a number of ways. Many enterprises in the sample were part of larger domestic or foreign owned companies. The impact of competitive pressure in these companies was moderated by the actions of the parent company. Although these companies acted independently of the parent in an operating sense, many were influenced by the emerging international strategies of the parent which prescribed the role of the subsidiary. The impact of competitive pressure was heightened or reduced by the nature of the market in which the enterprise competed. Thus many smaller enterprises were repositioning themselves in niche markets in which they faced only limited competition, particularly in the domestic market. Other companies operated across a broader spectrum and faced more severe competitive pressure.

In many cases, senior managers would mention training in their discussions of strategic response. This was often in the context of a statement of belief in the importance of raising skills to achieve greater competitiveness. However, it was unusual for training, as a means of realising those skills, to be discussed as a part of the strategy. Training was usually regarded as a necessary activity to support the strategy. Training was a strategy enabler rather than a strategy driver.

Impetus Factors

Global Factors. There were four factors that emerged as key elements of the response of many enterprises in the sample to competitive pressure and as key drivers of training.

Quality Assurance. Almost without exception, the quality revolution had impacted upon the enterprises in the sample, regardless of industry sector. Firms in the electronics sector had taken the greatest steps in the introduction of quality management. Quality assurance systems were being used in many of the companies and most of the sample had achieved certification under the ISO/AS standards bodies.

In the food processing sector accreditation was less common, but quality assurance systems were being introduced in many companies. However, their use for the reorganisation of work was more limited than in the electronics enterprises. Construction and building enterprises had not travelled so far down the road of quality management as enterprises in the other two sectors. In this case many enterprises had elaborate, checklists-based inspection systems for assuring quality - a different approach to that of orthodox quality assurance.

These three approaches to quality had different implications for training. *Accreditation* involves the meeting of a number of rigorously applied standards in the processes of the business. Thus accreditation tends to lead to the development of formalised training programs relating to the technical content of, particularly, shopfloor jobs and recording systems that attest to the completion of the training. Methods such as *Total Quality Management* (TQM), on the other hand, emphasise the behavioural aspects of work. Thus training for quality assurance tends to emphasise the importance of problem-solving, teamwork and good communications. *Inspection based systems* of quality involve the least training. In this situation the inspectors are trained to work with a checklist to ensure that all the identified features of the product are present.

New Technology. Most of the enterprises in the sample were involved in the introduction of various forms of new product and process technology. It is important to distinguish between the two for the purposes of their impact on training provision. New *products* are frequently introduced into an existing production or construction framework. Thus the training implications are usually relatively routine. New *processes*, however, may involve quite fundamental changes to the way in which work is carried out and, therefore, may involve more extensive training in the enterprise.

Generally the training implications of investing in new technologies were relatively straightforward. New product technologies often involved on-the-job training for employees who would be producing the new product. Training for new process technology needs to be more extensive. In most cases training for new process technology was supplied by the vendor of the equipment. Firms would look to the

vendor for the training of key personnel, often a mix of engineers and shopfloor employees, who would then, in turn, be responsible for the training of other staff involved in the new process.

Work Re-organisation. Most of the enterprises were involved in some form of work re-organisation. The most usual form of re-organisation was the introduction of teamwork. In many cases this was linked to the introduction of TQM with its emphasis on work based teams identifying quality related problems and solving them. However, rhetoric in this area often outstripped reality. Although work re-organisation had yet to progress as far as managers wished to go, nevertheless, it was a key emerging focus for training in the enterprises. Training for multiskilling was beginning to take place in many of the enterprises with the emphasis on employees being able to cover for each other in the event of absence. This was being supplemented by training for quality assurance techniques that emphasised team based problem solving and the behavioural skills of working in groups.

Award Restructuring. All of the enterprises in the sample, unionised or not, had been touched by the impact of award restructuring in the late 1980s. Although the Structural Efficiency Principle (SEP) was no longer officially operating within the industrial relations system, enterprises were still coming to grips with the changes involved. In the food and construction industries, award restructuring had operated at the industry level and the changes made at this level were beginning to filter down into individual companies. In the electronics industry, the picture was more confused and there was a greater dichotomy between unionised and non-unionised enterprises. Whilst the full impact of award restructuring is yet to be felt at the enterprise level, the processes of consultation and discussion that have surrounded the implementation of new career paths and classifications have created a climate favourable to the provision of more effective training. Although not a direct driver of training, award restructuring remains an important enabler of better training provision.

Industry Factors. The case studies revealed three major factors that act across particular industries to affect the impetus to train at the enterprise level.

The Extent of Deregulation. Although financial and other forms of deregulation have affected enterprises across the economy, particular industries have also followed the fashion and deregulated their own individual environments. It is these industry level forms of deregulation that have often had the most lasting impact on enterprises in the industry.

Industry Training Arrangements. In all three sectors investigated in this study, there had been efforts made since the late 1980s to put in place national, industry-wide training arrangements. As described in the industry profiles above, these initiatives had met with varying degrees of success in the three industries. Most successful of all was the implementation of the Certificate of Food Processing, whilst arrangements in both the construction and electronics sectors had little discernible effect on training at the enterprise level in the cases studied.

Traditions of Training. In the construction industry there is a very strong tradition of apprentice training. This tradition of support for young tradespersons was most clearly articulated by managers in the building and construction enterprises. In the same industry, however, the tradition of subcontracting tended to militate against training provision. The larger enterprises were leading their subcontractors to undertake more training or participate in training arranged by the major contractor as part of the contract, but this was exceptional.

In the electronics industry there was a tradition of engineering training. This reflected the technical nature of the products of the industry and the high proportion of technical graduates in the industry. The technical focus of the training provided in the electronics industry was supported by the traditionally high level of expenditure on research and development. New product innovation is essential for success and this has bred an emphasis on extensive R&D.

In the food processing industry there was a less clearly discernible tradition of training. The tradition has tended to be one of low training provision across all categories of employees. It was the recognition of this tradition that was partly responsible for the establishment of the Certificate of Food Processing. The impact of this development on training in the industry has yet to be fully evaluated.

Enterprise Factors. Whilst enterprises respond to the global and industry wide factors that influence the provision of training, there were also unique characteristics of enterprises in the sample that had a significant impact on the enterprise's propensity to train its employees.

A Training Culture. There is little doubt that some enterprises in the sample exhibited a remarkably strong belief in the value of training whilst others were less committed. The sources of a high training culture were varied. The factors that influence the creation of a high training culture are many. But the importance of a high level of senior management commitment to the notion of employee development seems to be critical - particularly at the level of the chief executive officer.

The Role of Managers. A key finding from the cases was the fact that training is primarily an operational issue. Whilst training may be supported and encouraged at the strategic level in organisations, implementation of the training is the responsibility of operational managers. Managers at this level are in a very powerful position to influence training outcomes for the enterprise. Middle managers are measured on their ability to meet targets - productivity, quality, delivery dates, construction deadlines, etc. In some cases meeting these tangible targets may be in conflict with the implementation of training programs. A significant and pervasive manifestation of this problem at the operational level was that of the release of employees for training that had been organised. Even in enterprises with a high training culture, production pressures were such that employees could often not get away from their jobs to attend the training that was provided.

Economies of Scale. Although the role and function of training is different in small business, it is clear that the larger enterprises in the sample enjoyed a significant advantage over the smaller enterprises in terms of their ability to provide formal training. Generally the larger enterprises had more resources that could be devoted to the training effort. Thus training infrastructure (presence of training specialists, etc.) was generally better developed in the larger enterprises.

Industrial Relations. Apart from the global effect of award restructuring and the processes that support it, industrial relations issues appear to have had only a weak effect on the provision of training in the cases studied. There were examples of effective training operating in both unionised and non-unionised enterprises. Likewise, enterprise bargaining does not seem to have had a major impact on training provision. Although training was often mentioned in enterprise agreements, it was usually in the context of reaffirming support for training decisions that enterprises had already taken.

The Training Impetus

The combination of these impetus factors was unique to each case. No two enterprises displayed the same mix of factors and it was the mix that determined the strength of the impetus to provide training in the individual enterprise. The actual outcome in terms of the type of training that the enterprise invested in depended on how the initial impetus to train was affected by the structural factors in the enterprise.

Training Structures

The training management structures varied considerably across the cases. There were no consistencies in the structure of the management of training either within industries or by size of enterprise.

However, one major point of consistency is that the management of training is increasingly being devolved to line managers and is treated largely as an operational rather than strategic issue within the enterprises. Generally, in the smaller enterprises the Managing Director retained the financial control of the decision to invest in training while in the larger enterprises this decision lay variously with line managers in some cases and with divisional managers in others.

Training did not appear to be considered at the strategic level within the cases, except in the most general terms as a concomitant to other strategic decisions, for example in relation to changes in work organisation, investment in new technology, or the introduction of quality assurance processes. There was, however, a universal view of the importance of training in supporting the strategic decisions made by management.

Organisation of Training

Role of Training Infrastructure. In general there does appear to be a correlation between the extent of training infrastructure (specialist training staff, training facilities, etc.) and the size of enterprises. A well developed infrastructure is only to be found in the larger enterprises. However, the relationship is not simple. Larger enterprises would not always support extensive training infrastructure. In these cases the lack of infrastructure is not necessarily an impediment to training as long as managers are committed to the implementation of the policies.

Training Decision Making. However, training decision making is not simply a mechanistic set of operational decisions. There are two clear levels at which training decisions are made in most of the enterprises.

The first level is that of the training investment decision. Decisions to implement new structured training programs or to support a new initiative with a major training program were made at relatively senior levels in the enterprises studied. The second level of training decisions is concerned with training planning, needs identification, and implementation. This includes decisions concerned with the timing and release patterns required for the training programs to run. These decisions were increasingly being devolved to front line managers. The actual location of the decision varied with the organisational structure of the company but in most cases enterprises were clear that implementation decisions were the responsibility of local line managers.

Role of Training

Role of Training in the Organisation. The form that training takes in small and large enterprises may also reflect the role that training plays in wider processes of organisational problem solving and communication. Larger enterprises in the sample tended to use internal, formal training (whether conducted by internal trainers or external consultants) more frequently than the smaller enterprises whose preference was for externally devised and conducted training or informal on the job instruction.

Many managers in the larger enterprises highlighted the importance of these events for mutual interaction with their peers from other parts of the organisation whom they rarely see in day to day life. These training programs served an important purpose in enhancing organisational communication and enabling managers from different parts of the company to network and resolve internal problems in a direct way. In the smaller enterprises, the opportunity for interaction with colleagues occured on a daily basis. Communicating and solving problems directly with the people concerned was a way of life in the smaller company where all employees will know each other and meet regularly to discuss issues and plan strategy.

It appears that as the company grows, the opportunities for informal learning become less and so the requirement for formal mechanisms such as internal training programs becomes increasingly necessary for the organisation to function effectively. A

narrow focus on the relative incidence of formal training may lead to misleading comparisons about the degree of learning that is taking place in small enterprises compared to larger enterprises.

The Role of Networking and Access to Training. A feature of the cases is the information and communication mechanisms through which individuals and managers become aware of training availability. The development of personal/professional contacts and accessing networks is a highly valued aspect of attending seminars, conferences and short courses. A significant problem for small enterprises, however, is the lack of access to line management and technical networks precisely because of their more informal means of accessing information and the typical difficulties they face with work pressures which prevent them from attending the range of seminars, conferences and short courses that dominate the external training accessed by members of the larger enterprises.

Training as an Operational Issue

The cases provide support for the belief that there is an increasing awareness of the importance of training issues amongst managers generally and amongst senior managers in particular. There is little doubt that the new awareness of training arises from the competitive environments that many of the case enterprises faced, but the explicit references to training as a means of coping with these new environments may well reflect the impact of the national focus on education and training since the mid-1980s. However, this level of senior management commitment should not be confused with strategic importance within the enterprises. There is very little evidence to show that training forms part of the corporate strategy of most of the enterprises studied. Rather training arises as a key operational issue in strategy implementation.

While there is this awareness and apparent commitment amongst senior managers, apart from key investment decisions, training is primarily a strategy enabler in the case study enterprises and, as a result, is the responsibility of line managers to devise and implement. In most of the enterprises it is apparent that training responsibilities are being devolved to line managers as part of internal management restructuring inititiatives.

This operational nature of training is further underlined by the structural changes which took place in most enterprises in the 1980s. In general these structural changes emphasised decentralisation of decision making to lower levels in the organisation - a trend reinforced in the larger enterprises by the disappearance of layers of middle management. In many cases this decentralisation had applied to the training function as well. Training specialists, where they existed, tended to play a brokering and facilitatory role.

The Role of the Individual. A key finding across all the sectors concerns the role of individuals in the identification of training needs and in organising suitable training to meet their needs.

The incidence of management initiated structured training programs that aimed to train large numbers of employees in a particular set of skills tended to be limited to meeting certain kinds of company wide training needs (e.g. introducing quality assurance or leadership training for managers) or in terms of particular groups, generally at the operational levels of enterprises. Beyond these programs and particularly at the management level, most enterprises relied primarily on individuals to flag their training needs to the organisation and to play a significant part in organising activities to meet their requirements. Even in the larger enterprises, where there were often reasonably elaborate systems of management succession planning in operation, the training that managers received was often as a result of individual effort rather than management driven training provision.

Uneven Spread of Internal Training Expenditure. An almost universal feature of the case enterprises was the very uneven attention paid to training and allocation of training expenditure amongst the divisions of the enterprises. Generally, management continues to dominate access to training expenditure allocations; operations employees are the focus of much of the management and/or industrial relatons initiated structured training reform; vendor provided training is of increasing importance; and generally clerical and administrative staff are the least likely to have access to structured training provided by the enterprise.

Assessment and Evaluation

Despite the high profile given to discussions of assessment issues in policy circles, it was surprising how little the issue was raised in the case study enterprises. There appeared to be little concern shown over formal assessment in on-the-job training and no discussion of any issues with off-the-job assessment. The greatest challenge appeared to be credit or recognition of prior learning of on-the-job skills acquisition by institutional off-the-job providers, especially where individuals were pursuing formal courses either for internal progression or external labour market purposes.

Few of the enterprises attempted any form of evaluation beyond the standard end of course reaction sheets. Even this level of reaction evaluation is missing for many training activities. Yet this did not appear to affect the level of resources devoted to training in the enterprises. Managers did not speak in terms of requiring a full evaluation of the training that they had sanctioned and did not appear to demand elaborate justification of the dollars invested in training in terms of demonstrable returns to the business. However, training staff often appeared to be concerned with the question of evaluation and felt they would like to have the opportunity to use more systematic methods to assess the relevance and impact of what they are doing. This mis-match between trainer and manager about the desirability of evaluation may reflect the organisational insecurity of trainers rather than the ignorance of managers.

Government Intervention

Use of Competency Standards. In general, most of the enterprises in the sample were not using competency standards to guide their training activities. There were a number of notable exceptions to this, particularly in the food industry where many of the larger enterprises were using standards. Similarly, the incidence of competency based training in the enterprises was very low. Only in those enterprises using standards was the training formally structured as competency based.

Impact of National Training Reform Policy. Most of the case studies highlight the fact that enterprises were largely ignorant of the detail of the training reforms of recent years except for the training guarantee. Certainly the notion of the National Training Reform Agenda was not well known amongst managers. However, ignorance of the training reform agenda did not mean that aspects of the training reforms had not had an impact in many enterprises.

The most obvious of the training reforms at enterprise level was the training guarantee. In most cases, firms were spending at or above the training guarantee minimum. In very few cases did managers quote the training guarantee as a major influence on their decisions to invest in training.

However, the universal belief in the general value of training indicates that the broad messages of the training reform agenda were being reflected in industry practice. It does appear, though, that a development of systematic structured training provision within the enterprises is still in the early stages of development. Accessing national programs or new national modular curriculum structures was mainly only evident in the food sector. The communication of the reform activities to the enterprise level was very *ad hoc*.

Thus, although recognition of the National Training Reform Agenda and its constituent parts is generally low amongst the enterprises in the sample, nevertheless it would appear that the training reforms of recent years have helped to create a climate in which training is viewed in a very positive light and in which elements of the reforms such as the use of standards and the use of competency based training are beginning to catch on at the enterprise level.

The Diversity of Training Outcomes

The divergence of training outcomes emerged as a key theme across the thirty case studies. We define training outcomes as any of the training activities undertaken by employees of the enterprise. It can include training which is internal or external to the enterprise, and informal training or learning activities. Training activities are

outcomes of various influences - training impetus factors and structures in the enterprise.

This diversity occurred despite, in many cases, enterprises operating in the same market. It demonstrates that there is not a systematic link between competitive situations and training responses in enterprises. As the model outlines, there are a range of key drivers at the global, industry and enterprise level that are mediated by the organisational and training structures in the enterprises to produce a variety of outcomes.

Coupled with the lack of systematic training plans in most enterprises and the findings that training is viewed and managed as an operational rather than a strategic issue, the formation of a demand for training is problematic.

Only a few enterprises were introducing structured training for all employees. In most cases the introduction of structured training is limited to individual divisions in the enterprise, or development of skills for particular initiatives (quality assurance, safety, literacy and numeracy, leadership and the like).

Even within the same markets the responses of enterprises in introducing training can be quite different.

The Dimensions of Training Outcomes

The large number of training impetus factors and training structures, each with a different relationship to training outcomes, and the interaction of the factors, make it difficult to make accurate predictions of training outcomes from the impetus factors and training structures. However, across the 30 cases, clear links between some of the factors and training outcomes were observed.

Formal internal training was provided by almost all of the medium and large size firms, but by only some of the small firms. There is an inference that economies of scale are not available to small firms, and so smallness of firm may be considered an impediment to the provision of formal internal training. Formal internal training may involve the cost of providing training infrastructure (e.g. a training room and a training specialist on staff), as well as the cost of developing, organising and conducting internal training programs. For medium and large firms this cost may be spread across the many employees participating in training programs. For small firms this is not possible.

Although small enterprises did not usually provide *formal* internal training, they did (along with the medium and large firms) undertake *informal* internal training. This is probably due to the lower direct costs of informal training - for informal internal training, little or no training infrastructure is required and development costs are usually low.

External training occurred in every case study. For certain skilled occupations in all three industries, external training was crucial to the supply of technical skills to the enterprise. This was most marked in construction, where trade skills required by a high proportion of workers in both commercial construction and housing were mostly acquired through TAFE courses and associated on-the-job training.

Table 1
Internal and External Training Tendencies in the Cases

Firm Size	External Training	Internal Training
Small	Yes	Mostly informal
Large	Yes	Mostly formal

Formal versus Informal Training. Informal training or learning may be defined as training or learning which is unplanned, not documented and largely unstructured. Informal learning usually occurs in informal instructional settings such as the workplace. In contrast, formal training and learning usually (but not necessarily) occurs in a formal setting such as a training room near the workplace or at an educational institution. A related issue is whether the training is credentialled. Informal training does not usually lead to a recognised credential.

Little information on the nature and extent of informal training was revealed in the case studies, yet previous studies suggest that informally acquired skills are significant in the performance of middle and senior management jobs. The case study interviews indicate that few think of informal training and learning as "training". Also, few of the enterprises in our study implemented strategies to maximise informal learning.

There may be more opportunities for incidental learning at the workplace in smaller enterprises because of the (usually) greater range of tasks and greater variety of work encountered. This could fully or at least partly off-set the lower levels of formal training in smaller enterprises, observed in these case studies and documented in other studies. As an enterprise grows, the opportunities for informal learning become less and so the requirement for formal mechanisms such as internal training programs becomes increasingly necessary for the organisation to function effectively. This generalisation is illustrated in Table 2.

Table 2
Formal and Informal Training Tendencies in the Cases

Firm Size	Formal Training	Informal Training
Small	Low, mostly external	High, mostly incidental
Large	High, mostly internal	Moderate, partly structured and planned

Technical Skills versus "Soft" Skills Training. "Soft skills" is a term used in the construction industry to describe all non-technical skills, particularly interpersonal/communication skills. For an industry with a strong tradition of trade and technical skills training, the greater attention being given to soft skills in recent years may be regarded as revolutionary. However, the increasing emphasis on soft skills was noted in all three industries - construction, electronics manufacture and food processing.

The greater emphasis on soft skills may be attributed mainly to global factors of training impetus. At least two of the four global factors, identified in this study, require high levels of soft skills in the workforce. Innovation in work organisation, in its most usual form, involves the introduction of teamwork with associated changes in job design and workflow. Another global impetus to training, the implementation of quality assurance strategies, also is leading to training outcomes emphasising soft skills. The TQM form of this strategy being pursued by many of the case study enterprises has an emphasis on high levels of soft skills required by all members of the workforce. Critical skills are commitment to quality, commitment to productivity improvement, problem solving and communic-ation skills.

Generic versus Specific Skills. In this analysis we define specific skills as skills specific to the enterprise in which they are primarily useful and relevant only to a single enterprise. Industry specific skills, which are not specific to a single enterprise, are classed as generic in this analysis.

Both types of skills training, generic and specific, were observed in all the enterprises studied. The emphasis on generic or specific skills varied, with the small enterprises tending to emphasise generic skills training through external courses and the larger enterprises tending to emphasise specific skills through formal internal training. Table 3 summarises the trends observed in the cases.

Table 3

Generic and Specific Skills Training Tendencies in the Cases

Firm Size	Generic Skills Training	Specific Skills Training
Small	Internal and external	Internal training - formal and informal
Large	External	Internal training - formal

Vendor Training. Vendor training was a frequent outcome of investment in new process technology, and an occasional outcome of investment in new product or material technology. New material technology was often a trigger for training in the construction enterprises, and vendors of the new materials sometimes provided training without charging the enterprise. In most of the enterprises in electronic equipment manufacture and food processing, vendor training was very important as

they invested (slowly) in new process technologies. Although training was regarded as a critical part of the process of investment in new equipment, "training agreements" with vendor firms were not encountered in this study. The provision of vendor training, therefore, appeared to be *ad hoc*.

Training Expenditure. It is difficult to make accurate comparisons of training expenditure across the 30 case study enterprises. Few enterprises kept complete and accurate records of training expenditure. Even in cases where complete records were kept, comparisons are problematic because the working definitions of training expenditure differ. For most of the small enterprises studied, training expenditure was not recorded. With the suspension of the *Training Guarantee Act*, there is no longer any compulsion to record expenditure. Training expenditure was clearly related to training impetus factors and structural factors. The most influential structural factor was enterprise size. Training expenditure was closely correlated with the size of the enterprise. Larger enterprises tended to spend more money on training, as a percentage of payroll, than smaller enterprises.

Distribution of Training. The distribution of training expenditure within the enterprises remains very uneven. Management, professional and technical training dominate training expenditure. Other groups such as operational employees and clerical staff in particular receive only a limited share of the training efforts.

There appear to be two reasons behind this uneven distribution evident in the case study enterprises. The reasons relate to the following:

- Training is integral to competitive strategies, and current strategies tend to focus on operational units - operatives, supervisors and middle management - where training activities will be focused.

- Employee initiated training appears to reinforce the uneven spread of training, as those who are more willing to come forward with training requests succeed in obtaining a higher share of the training expenditure.

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Appendix: Brief Descriptors of Case Studies

Thirty case studies were included in the sample, ten from each of the three industry sectors: building and construction, electronics equipment manufacturing and processed food and beverages. The enterprises were given the option of disguising their identities. Eight enterprises chose this option. These enterprises have been given generic names to distinguish them from "real" enterprise names.

Buiding and Construction

AV Jennings. A very large domestic home builder with annual turnover of nearly $500 million. Australian-owned with corporate headquarters in Brisbane and Melbourne. The national workforce of 2,500 builds about 4,500 homes per annum. Active in most segments of the domestic home construction market with a focus on first home buyers.

Barclay Mowlem. Large Sydney-based construction company with government contracts making up 60-70% of construction activities. It has Building, Marine, Railway and Civil Engineering operations. Employs 900 people and has an annual turnover of around $352 million. It is carrying out the Liverpool Hospital Re-development Project with about 45 site staff managing the work of 200-450 sub-contractors.

Civil & Civic/Sydney Olympics Construction Site. Civil & Civic is a subsidiary of the Sydney-based multinational, Lend Lease, and is the principal contractor and manager for the project. Up to 400 employees work on the project, of which approximately 60 are directly employed by Civil & Civic, the remainder (340) being sub-contractors. A large proportion of staff are from a non-English-speaking background. In a strongly unionised industry, relative industrial harmony is considered to be a significant achievement of this project.

John Holland Construction and Engineering Pty Ltd - Building Division. This company is a component of the international business operations of the John Holland Group (JHG) and operates in all states of Australia. Although a core workforce is maintained in NSW and Victoria, sub-contractors continue to play a significant role in the company's projects. The company is currently undergoing change, as it is in the process of developing its Corporate Training Strategy.

Homebuild. The company has branches in NSW, Victoria, Queensland and New Zealand. It directly employs 117 staff (67 in NSW) and relies heavily on additional sub-contracted labour. Non-unionised, no enterprise bargaining. Lack of training culture within the organisation but strong commitment to apprenticeship training.

Mitchell Classic Homes. A small- to medium-size home builder in Sydney with annual turnover of about $5.5 million. Employs 5 people plus subcontractors for drafting and building trades. Builds low cost homes, house and land packages and investment home/units.

Homebuild 2. Homebuild 2 was established in Hobart in 1968 and covers a wider-than-usual range of construction activities. It employs approximately 140 staff and provides work for up to 400 subcontractors. Industrial relations have improved dramatically in recent years, while the company has prospered despite the recession. The company's current expansion is demonstrated by its export drive (mainly to China) and its increased construction activity on the mainland as far north as Darwin.

Stirling Homes. A small privately-owned home building company in the eastern suburbs of Melbourne. Produces houses across a broad price range, but has a tendency to produce for the medium to high price bracket (average of $200K). Employs two full-time plus one part-time staff and has an annual turnover of around one million dollars.

Transfield (Technology) Loy Yang "B" Site. Transfield (Technology) employs about 73 staff on the Loy Yang "B" power station, nearing completion in the Latrobe Valley. The project was initially let to ICAL Ltd, and subsequently taken over by Transfield. These companies have now been operating in the Latrobe Valley since 1978, so patterns of employment are atypical. Transfield (Technology) employs an unusually high proportion of experts on the project, to manage the computer systems used in construction of the power station.

Walker Civil Engineering. A Sydney-based, Australian-owned engineering and construction company which employs 151 people plus two to three times this number as sub-contractors. Its activities include land subdivisions, medium density residential dwellings and industrial property development. Annual turnover is about $500 million.

Electronics Equipment Manufacturing

Electrico 1. Australian subsidiary of a European electronics multinational. Manufactures telecommunications equipment at its Melbourne plant since the 1960s. Employs 2200 people across Australia; 1500 at its manufacturing plant. Supplies the domestic market with limited export activity. Heavily unionised.

Osborne Computers. Australian owned computer manufacturer that grew out of US parent. Has manufactured computers in Australia since 1982. Employs 420 people at its Sydney based manufacturing plant and in sales offices across Australia. Produces exclusively for the domestic market and has enjoyed high growth in recent years. Non-unionised.

IBM Australia. Australian subsidiary of US based computer manufacturer. Employs 3000 across Australia and approximately 500 in its manufacturing plant. Has manufactured computers in Australia since the early 1980s and exports approximately 70 per cent of production to the Asian region. Non-unionised.

Electrico 2. Privately owned company manufacturing electronic control systems and communications equipment at its Perth plant where it employs 35 people. Offers a turn-key electronic manufacturing service to commercial and military customers in Australia, North America and the UK. Established in 1978. Non-unionised.

Siemens. Australian subsidiary of a very large German electrical and electronic engineering company. Has manufactured power generation systems and telecommunications equipment in Australia since the mid-1950s. Employs approximately 1000 people, 250 at its manufacturing plant in Melbourne. Produces primarily for the domestic market but with some export activity in recent years. Heavily unionised.

Electrico 3. Australian subsidiary of large, European based consumer electronic multi-national. Manufactures a range of electronic equipment for the Australian market at its Adelaide plant where it employs approximately 200 people. Heavily unionised.

Matsushita. Australian subsidiary of a large Japanese electrical and electronic engineering company. Has manufactured televisions at its Sydney plant since 1968 where it employs 150 people. Produces exclusively for the luxury end of the domestic market. Heavily unionised.

Electrico 4. Family owned "start-up" company manufacturing telecommunications equipment since 1985. Employs 11 people and supplies equipment to both domestic and export markets. Has enjoyed very high growth rate since start up. Non-unionised.

Advanced Energy Systems (AES). Privately owned company manufacturing power electronic systems and software since 1986 at its Perth plant. Employs 25 people and produces primarily for the domestic market. Non-unionised.

MITEC. Brisbane based manufacturer of microwave technology products since 1987. Employs 180 people at three sites in the Brisbane area and supplies equipment both to overseas and domestic customers. Has enjoyed very high growth since inception. Non-unionised.

Processed Food and Beverages

Brownes Dairy. An Australian owned enterprise, part of the Peters Group of Western Australia. Produces milk products and orange juice primarily for the domestic market but is now seeking to expand into export markets, mostly in the Asian region. Employs 150 people and is strongly unionised.

Murray Goulburn Dairy. Australian owned dairy based in Melbourne with six branches. The Leongatha branch employs over 300 full time employees and supplies approximately 50 per cent of Victorian milk.

Foodco 1. Australian subsidiary of the US based food multinational. It produces breakfast cereals in a market characterised by strong competition between brands and products. Employs 780 staff in Australia and New Zealand with 650 at the Sydney headquarters. Produces for both the domestic and export markets with expansion in exports a major goal. Strongly unionised.

The Uncle Tobys Company Ltd. Australian owned and is part of the Goodman Fielder Ltd group. It produces breakfast cereals and snack foods primarily for the domestic market but is now expanding into export markets in the Asian region. It employs 1191 people of whom 951 are full time. Strongly unionised.

Foodco 2. An Australian owned food processing company based in a small rural Australian town. The company is a cooperative and operates a number of plants with a total employment of 1200 staff. The company exports 90 per cent of its product, primarily to Asia.

Golden Circle. Established as a cooperative by government charter. It is now incorporated as an independent company with its own share registry. All shareholders are fruit growers. The company produces for both domestic and export markets. It has a workforce of approximately 1700 of whom 680 are permanent. Unionised.

Don Smallgoods Pty Ltd. A subsidiary of the international company, Bunge. It produces smallgoods primarily for the domestic market but has recently begun exporting. It employs 440 people at its Victorian plant of whom 96 per cent come from a non-English speaking background. Strongly unionised.

Sunicrust. A subsidiary of the international company, Bunge. It is a regional bakery employing 76 people. It previously operated in a geographically regulated market which is now being deregulated. The enterprise now faces strong competition in its market and is restructuring to meet the competition. Produces solely for its regional market. Unionised.

Smiths Snackfoods Company Pty Ltd. A subsidiary of the international company, United Biscuits. It produces snack foods for the domestic market. The company has manufacturing centres in NSW, Qld, SA and WA with approximately 800 people employed in the NSW plant out of a national workforce of 1200. Unionised.

Shepparton Preserving Company (SPC). Australia's largest fruit cannery based at Shepparton, Victoria. The company employs 350 permanent employees and up to 1200 casual staff in the canning season. The company has recently undergone a highly public restructuring. Exports account for 35 per cent of sales revenue.

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